

HW: #2 on front of notes:

a) row = survival column = hospital

b) P(A) = $2100/2900 = 72.41\%$

c) $P(B) = 800/2900 = 27.59\%$

d) $P(D) = 79/2900 = 2.72\%$

$P(S) = 2821/2900 = 97.28\%$

e) $P(D | A) = 63/2100 = 3\%$

f) $P(D | B) = 16/800 = 2\%$

g) $P(B \cap D) = 16/2900 = 0.55\%$

.0055 . .

h) $P(A \cap D) = 63/2900 = 2.17\%$

HW: #2 on back of notes

Conditions:

- | | |
|----------------------------|----------------------|
| 1) SRS | 1) assumed |
| 2) all $\text{exp} \geq 5$ | 2) yes- see matrix B |

Ho: Irritation and age are independent (no assoc.)
Ha: Irritation and age are dependent (association)

$$\chi^2 = \sum \frac{(\text{obs} - \text{exp})^2}{\text{exp}} = 13.619$$

matrix A
 χ^2 -test

$$P(\chi^2 > 13.619) = 0.0342 \quad df = 6$$

- We reject H_0 b/c p-value of $0.0342 < \alpha = 0.05$
- We have sufficient evidence that Irritation and Age are dependent. They DO affect each other.

significant = reject

- Get out a black sheet of paper
- Go to page 489, #19
- * Do the full test of significance.
- We will be trading this and grading it. Be complete with your work

p. 489 #19

19 total pts

Conditions:

1) SRS

1) assumed

2) all exp ≥ 5

2) no- see matrix B. Will do problem anyway

Ho: grades and extracurricular activities are independent 2

Ha: grades and extracurricular activities are dependent 2

$$\chi^2 = \sum \frac{(\text{obs} - \text{exp})^2}{\text{exp}} = 6.9264$$

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$$P(\chi^2_2 > 6.9264) = 0.0313 \quad df = 2$$

- We reject H_0 b/c p-value of 0.0313 < alpha = 0.05 2

- We have sufficient evidence that grades and extracurricular activities are dependent. (They DO affect each other.) 2

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χ^2 Goodness of fit

L_1, L_2
↓ ↓
obs exp.

χ^2 for association
Indep.

matrix

table
